

Parental care



Why is parental care more often
maternal than paternal?

Female cost vs. benefit:

Females have already invested so much energy in making eggs.

Females are sure of their genes will pass on.

Offspring survival

Male cost vs. benefit:

Males tend to mate as many mates as possible, invest more energy on attracting females

Males are not sure if their genes will pass on.

Offspring survival

Male fishes are unusual that they often provide uni-parental care:

Why?



Stickleback

Male fishes are unusual that they often provide uni-parental care: Why?



Randall's Jawfish



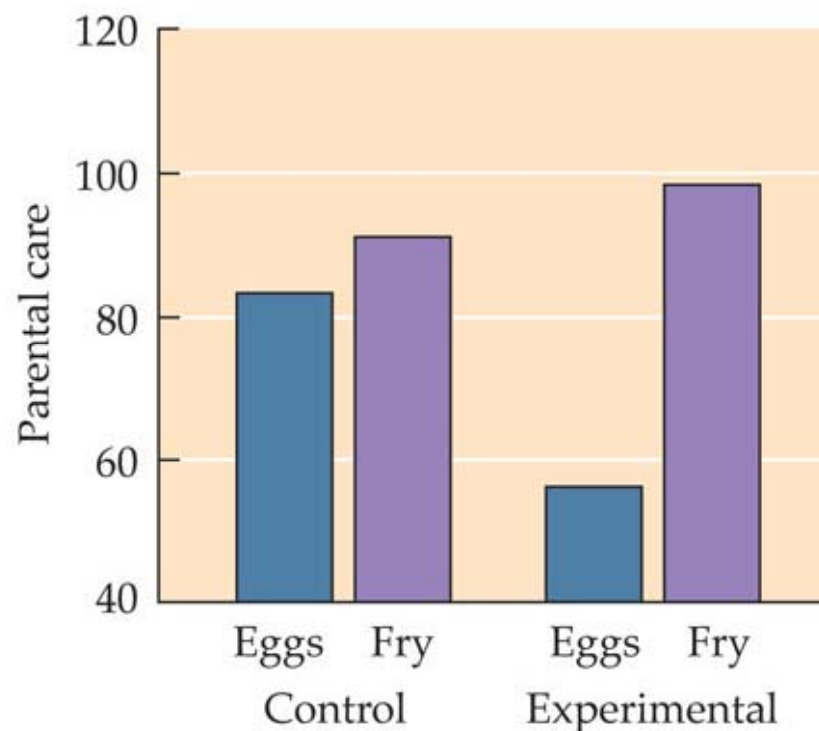
Stickleback

Paternal behavior might evolve when males can ensure paternity

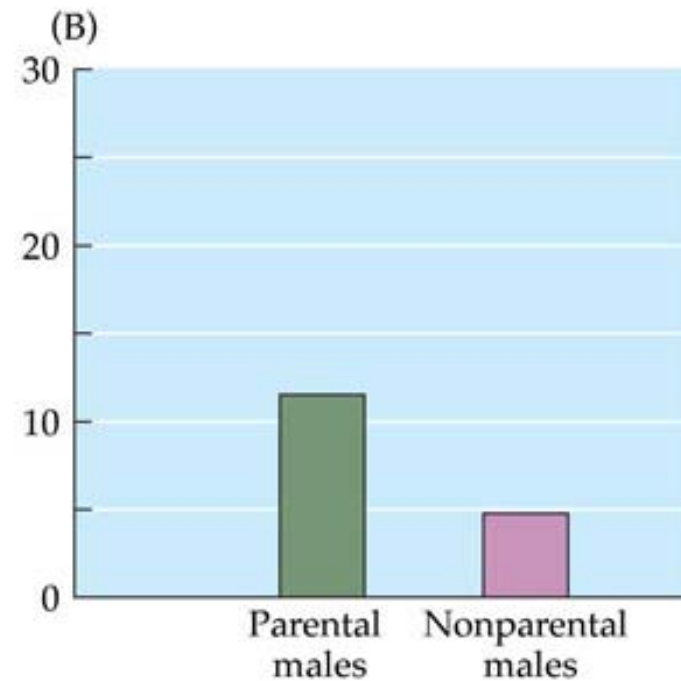
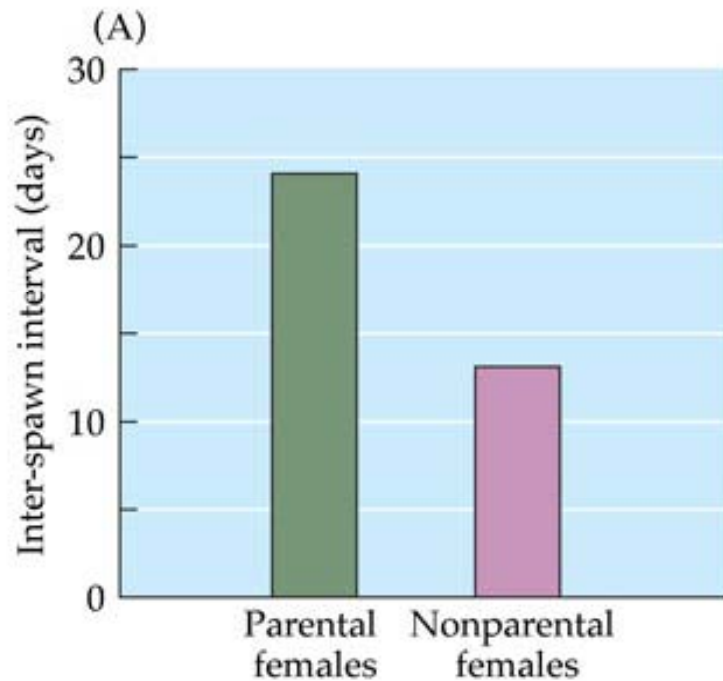
Hypothesis: Males are more likely to take care of young if they “think” they’re the dad

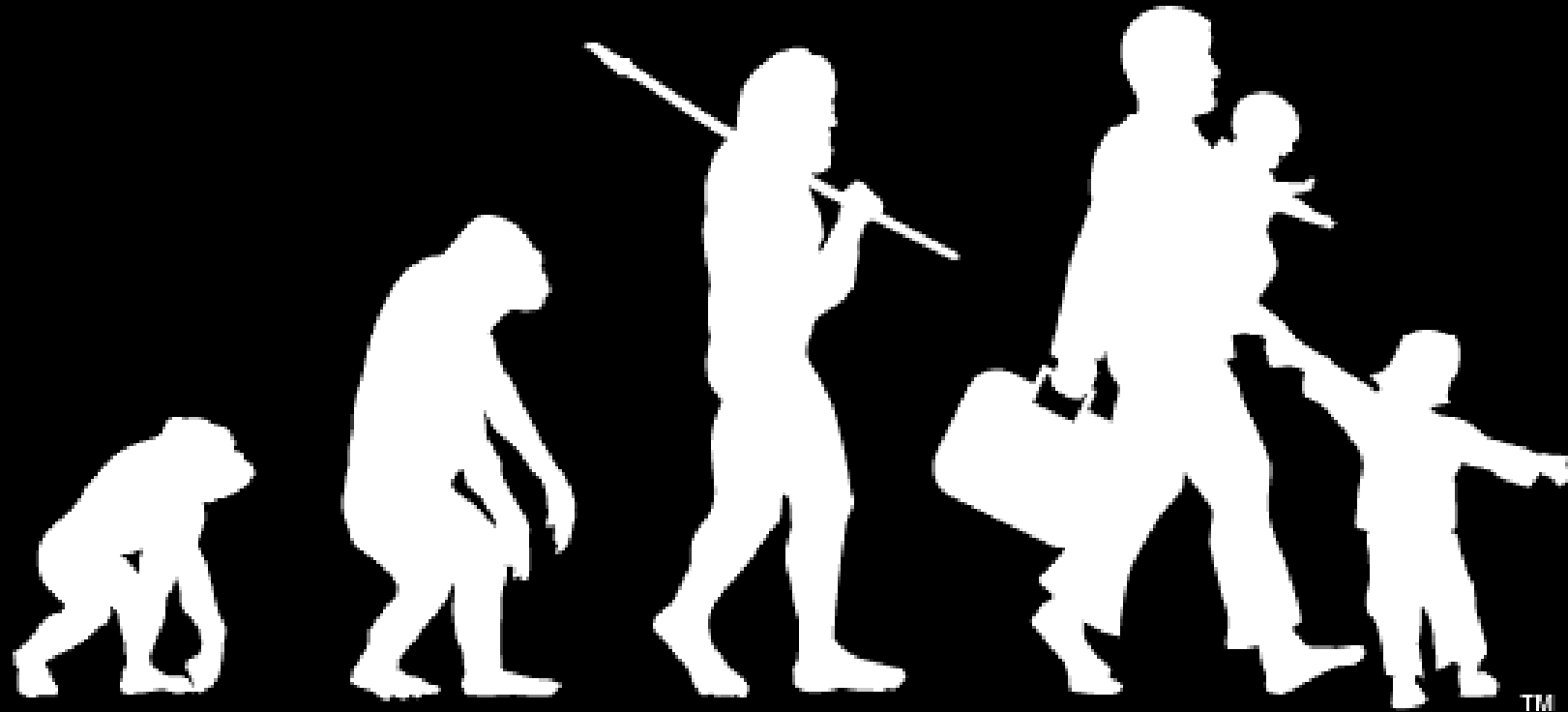


Bluegill



Paternal behavior might evolve when costs are lower for males than for females





THE EVOLUTION OF DADTM

PROJECT

To care for their young, parents
must recognize their young



Many colonial species are good at offspring recognition

Parent-offspring recognition

Parents should avoid caring young that are not their own offspring.

Can parents always identify their own progeny?

Mexican free-tailed bats

Pregnant females form colonies in the millions...

~4000 pups per square meters

Can mother bats nurse discriminately?



Offspring recognition: function to prevent misdirected parental care.

Prediction: Parents should be especially good at identifying their own young in colonial species, but not as well in solitary species.